TELEFUNKEN SERVICE

AUDIOVISION
AUDIOVISION
AUDIOVISUEL

CAMERARECORDER
VIDEO MOVIE A 2500 P

Bestell-Nr. 319 558 283

STROMLAUFPLÄNE · SCHEMATIC DIAGRAMS

Service-Hinweise

Das Laufwerk, die Videoköpfe und alle Bandführungen benötigen nach ca. 500 Betriebsstunden periodische Reinigung und Pflege, um die normale Leistungsfähigkeit zu erhalten. Die nachstehenden Service-Hinweise sind als Kurzanleitung gedacht.

Pflege und Wartung

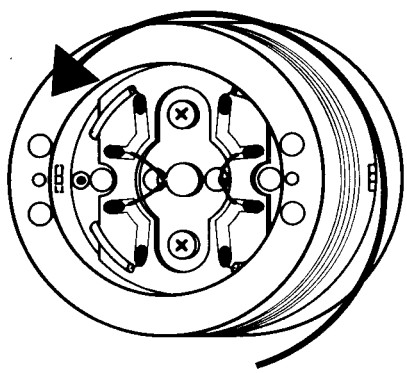
Die folgenden Teile benötigen eine periodische Reinigung und Fettung, um ihre normale Leistungsfähigkeit zu erhalten:

A. Trommelsystem

1. Die oberen und unteren Trommeln, der Löschkopf, die zwei Bandführungen und die zwei Führungsrollen müssen gelegentlich gereinigt werden. Da diese Teile direkten Kontakt mit dem Video-Band haben, nehmen sie leicht Staub an.

   Vorsicht:

   Wenn die Video-Köpfe auf der Kopftrommel gereinigt werden, sind sie nicht in senkrechter Richtung zu bearbeiten. Mit möglichst sanfter Hin- und Rückbewegung in Richtung des Bandweges die Trommel säubern, da die Köpfe aus Ferrit hergestellt sind und leicht zerbrechen können.
2. Zum Reinigen ausschließlich ein staubfreies Ledertuch benutzen, welches mit reinem Alkohol angefeuchtet wurde.
3. Nachdem die Teile mit Alkohol gereinigt wurden, sollten sie einige Zeit trocknen, bevor das Cassetten-Band benutzt wird, da der Alkohol das Band beschädigen könnte.



B. Andruckrolle und Capstan-Welle

1. Staub an der Andruckrolle oder der Capstan-Welle kann deren Funktionsfähigkeit beeinträchtigen.
2. Die Oberfläche der Andruckrolle und die Capstan-Welle sollten mit einer milden Waschmittellösung und einem staubfreien Tuch gereinigt werden.

   Achtung:

   Alkohol kann Gummi angreifen.

Service Instructions

The mechanism, the video heads and all tape guides require periodic cleaning and attention after approximately 500 operating hours to maintain the normal performance capability. The adjacent Service-Notes are to be regarded as abridged instructions.

Cleaning and maintenance

The following parts require a periodic cleaning and lubrication to retain their normal performance.

A. Drum system

1. Clean the upper and lower drums, the full erase head, the two guide poles and the two guide rollers occasionally. Since these parts make direct contact with the video tape they tend to collect dust.

   Caution:

   When cleaning the video heads on the upper drum, DO NOT clean them with vertical strokes. Use only a gentle to and fro movement in the direction of the tape travel. Take great care as the heads are made of ferrite and are very fragile.
2. For cleaning use a chamois leather moistened with pure isopropyl alcohol.
3. After cleaning with alcohol, allow the parts to dry before using a cassette tape. Alcohol can damage the tape.

Reinigung der Kopftrommel
Head drum cleaning

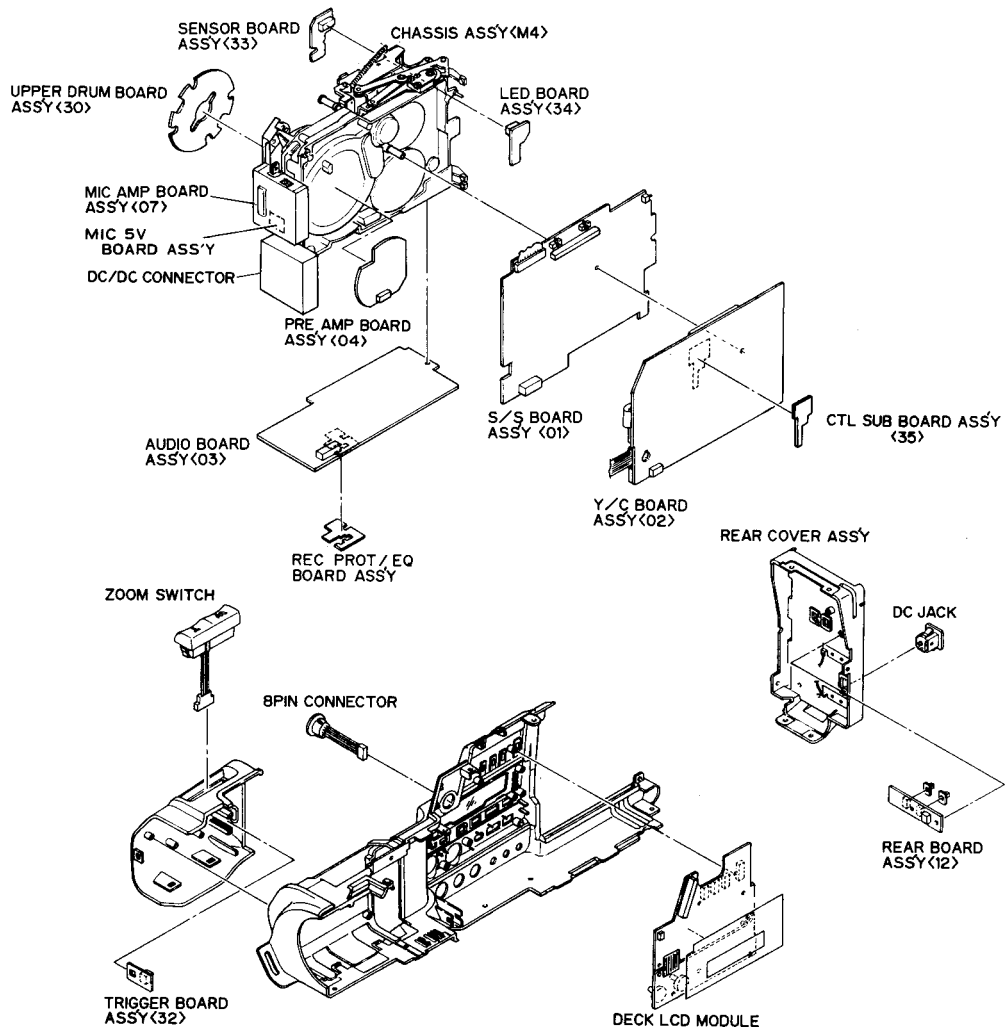
B. Pinch roller and capstan shaft

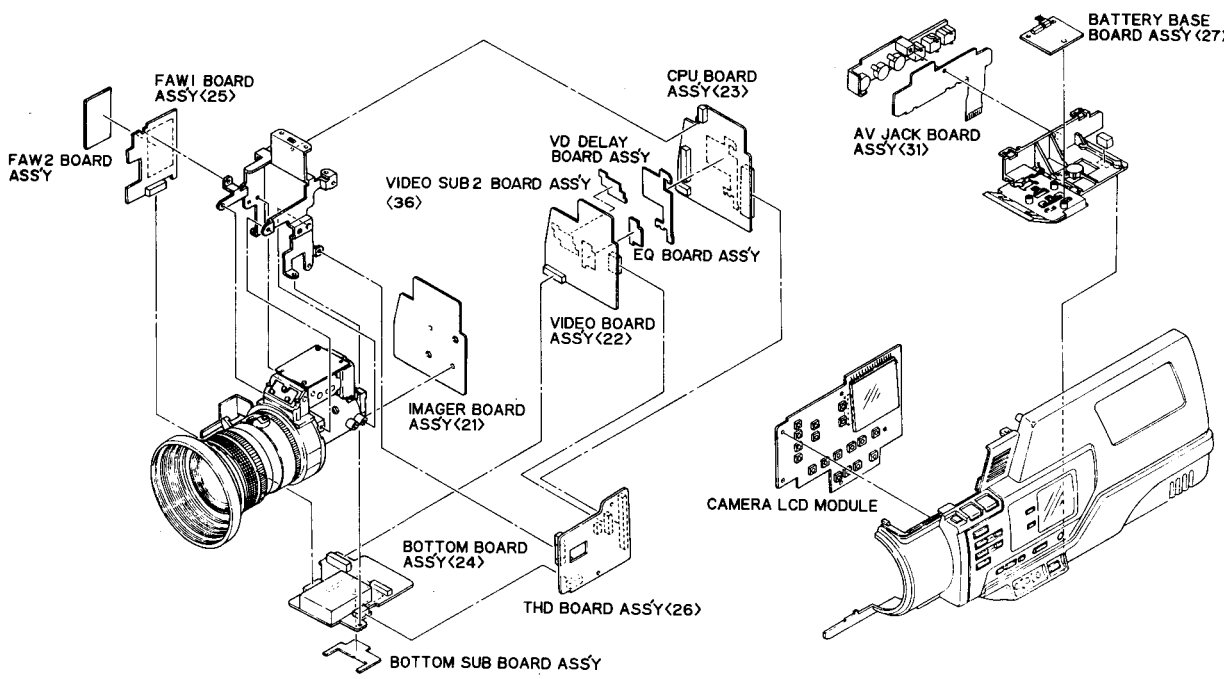
1. Dust on the pinch roller or the capstan shaft can impair their operation.
2. Clean the pinch roller surface and the capstan shaft with a mild detergent solution and a lint-free cloth.

   Note:

   Alcohol can cause rubber to deteriorate.

No.	PWB NAME
01	S/S
02	Y/C
03	AUDIO
	REC PROT/EQ
04	PRE AMP
07	MIC AMP
	MIC 5 V
12	REAR
21	IMAGER
22	VIDEO
	EQ
23	CPU
	VD DELAY
24	BOTTOM
	BOTTOM SUB
25	FAW 1
	FAW 2
26	THD
27	BATTERY BASE
30	UPPER DRUM
31	AV JACK
32	TRIGGER
33	SENSOR
34	LED
35	CTL SUB
36	VIDEO SUB 2





Lageplan der Leiterplatten - Position plan of P.C.B.'s

NAME		L
IC		
A	AFZ72F30A5	1D
	AN2276S	5D
	AN2510S	6C
	AN2570FA	2B
	AN3380NK	5C
	AN3931NC	4A
	AN3977C	4E
	AN6308S	1A
	AN6392	3B
	AN78L08-TA	2F
B	BA10324F	1B
	BA10339F	1B
	BA10358F	1B
	BA10393F	1B
	BA7131F	1A
	BU4001BF	1B
	BU4011BF	1B
	BU4052BF	3D
	BU4053BF	3D
	BU4081BF	3D
H	HA11899MP	4C
	H8D7091B	3E
I	IR3F01N	1A
M	MC8180B	1E
	MN3106S	1A
	MN3801S	3C
	MSM6830M3	6A
	MSM6984MS	1A
	M37100M8-398FP	1F
	M37405E5	1F
	M37450M2-152FP	1F
	M51798FP	1B
	M52074FP	5E
	M5236ML	3A
	M5282FP	1A
	M54543ASL	5B
	M54641FP	2E
N	NJM2904E	1A
	NJM3404AM	1A
	NJM431U	4B
S	S-3500A2	1B
	S-8053AN0	2A
	S-8054HN	4B
	S-81215AG	4B
	S-81252HG	2A
T	TA7361AP	2C
	TA8609F	1C
	TA8644F	4D
	TA8733F	6C
	TC4S66F	6D
	TC4S69F	6D
	TC4S71F	6D
	TC4S81F	6D
	TC7S04F	6D
	TC74HC04AF	1B
	TC74HC14AF	1B

NAME		L
U	UPC2370GH	2D
	UPC2371GH	2D
	UPC324G2	1B
	UPC358G2	1A
	UPC393G2	1A
	UPD4011BG	1B
	UPD4053BG	3D
	UPD6147G	6A
	UPD6148GS	6C
	UPD9319CGC	6E
V	VC2031MP	6B
	VC2057	4D
	VC2095	6A
	VC5026G	6A
5V	5VT16	3F
TRANSISTOR		
D	DTA114EU	1G
	DTA124EK	1G
	DTA124ES	1G
	DTA124EU	1G
	DTA143ZK	1G
	DTA144EK	1G
	DTA144EU	1G
	DTC124EK	1G
	DTC124EU	1G
	DTC124TU	1G
	DTC143TU	1G
	DTC144EK	1G
	DTC144ES	4G
	DTC144EU	1G
	DTC144WK	1G
U	UN5216	1G
2SA	2SA1037K	1G
	2SA1502	1G
	2SA1532	1G
	2SA1576	1G
	2SA1577	1G
2SB	2SB1073	4G
	2SB1132	4G
	2SB1218	1G
	2SB2412K	1G
	2SB624	1G
	2SB766	3G
	2SB798	3G
2SC	2SC2412K	1G
	2SC3931	1G
	2SC3936	1G
	2SC4081	1G
	2SC4097	1G
	2SC4098	1G
	2SC4181	1G
2SD	2SD1819	1G
2SJ	2SJ146	2G

NAME		L
DIODE		
D	DAN202K	1H
	DAN202U	1H
	DAP202K	2H
	DAP202U	2H
	DA204K	6H
	DA204U	6H
	DC010	1H
E	ERA15-06	5H
	ERA81-004	4H
	ERA82-004	5H
	ESJA04-02	5H
F	FMN1	2I
I	IMN10	3I
M	MA141A	5H
	MA141WA	2H
	MA141WK	1H
	MA152WK	1H
	MA157A	6H
	MA704	5H
R	RD20EB2	3H
	RD7.5M-T2B2	1I
	RD8.2EBS	3H
L	LN28CAL	4I
	ISS133	5H

Halbleiter- Anschlüsse - Semiconductor shapes

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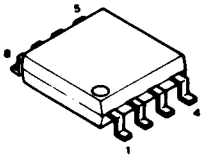
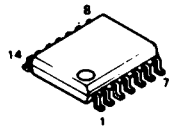
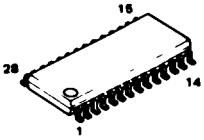
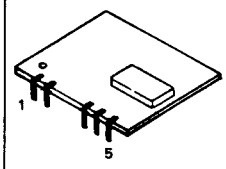
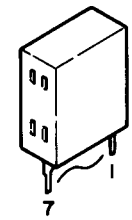
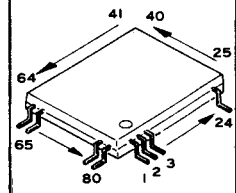
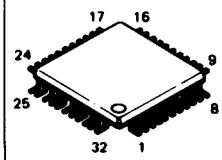
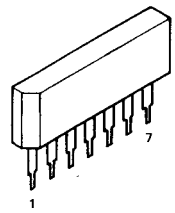
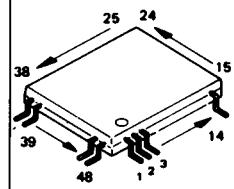
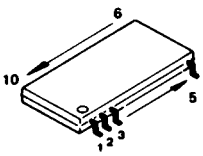
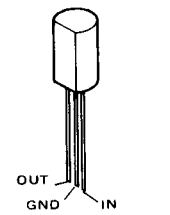
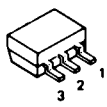
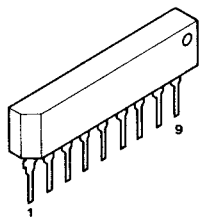
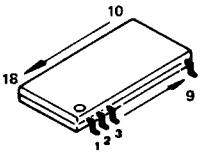
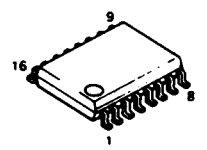
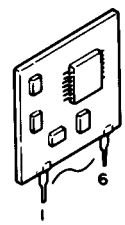
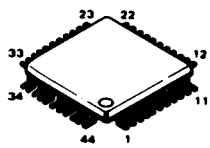
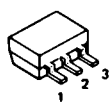
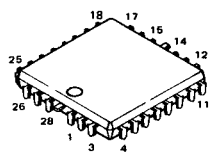
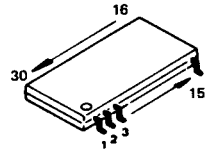
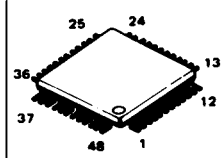
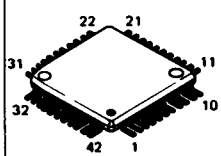
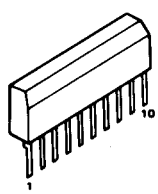
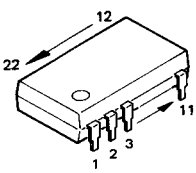
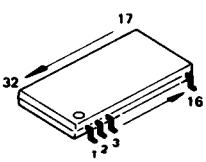
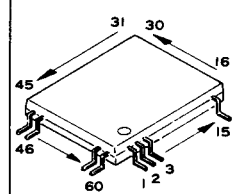
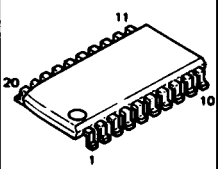
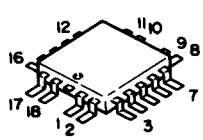
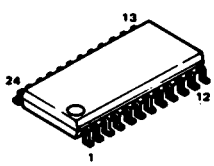
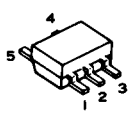
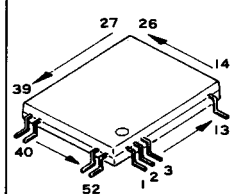
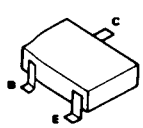
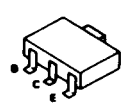
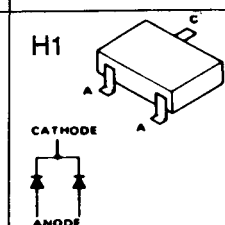
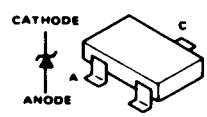
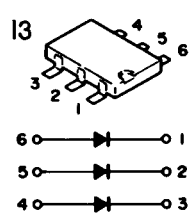
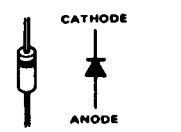
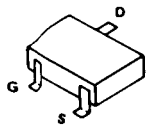
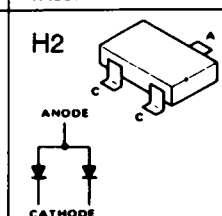
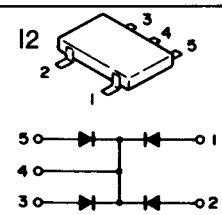
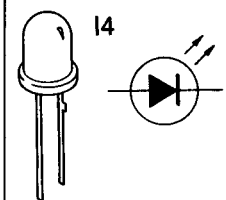
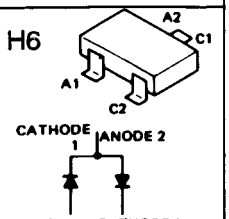
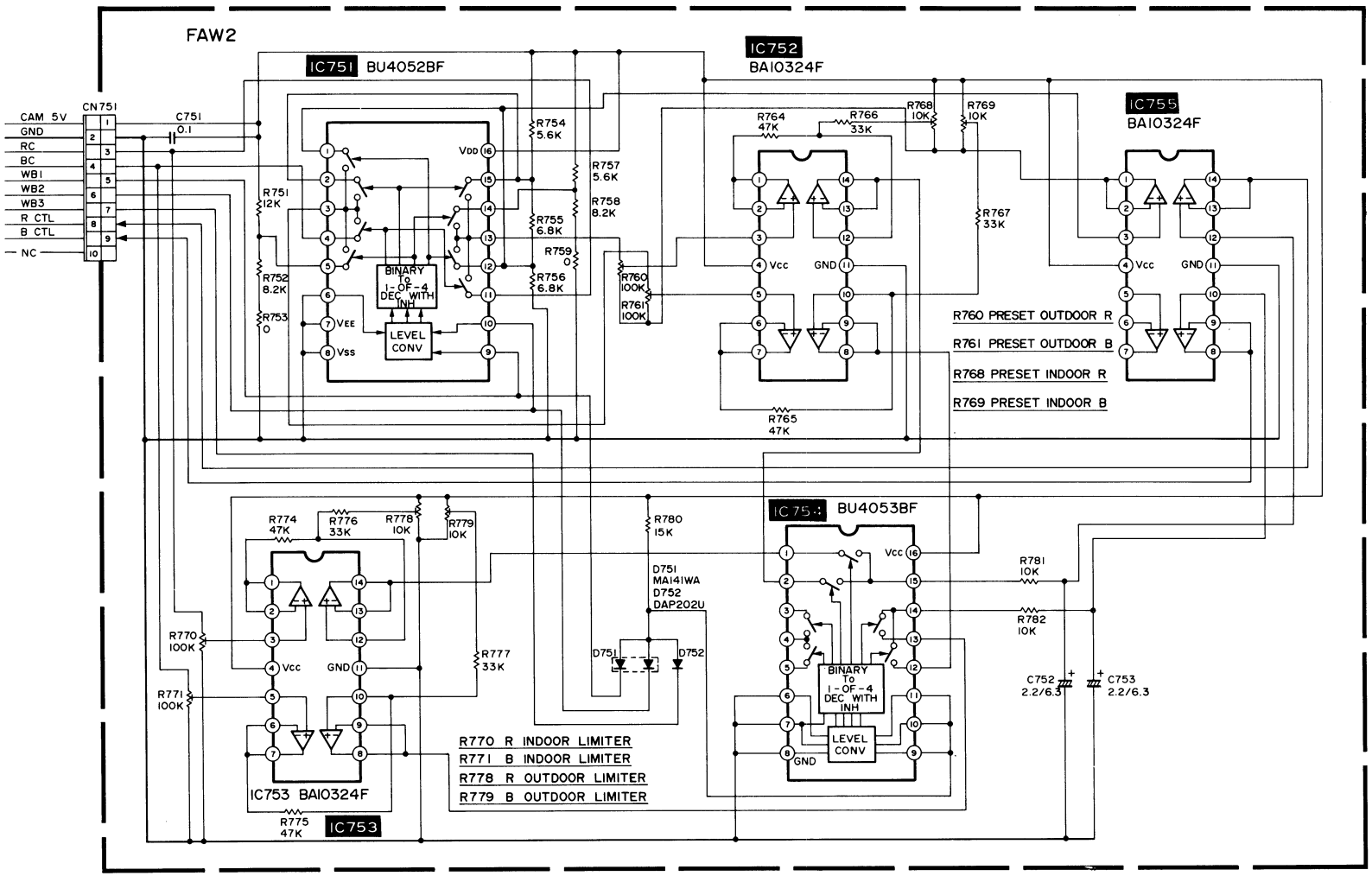
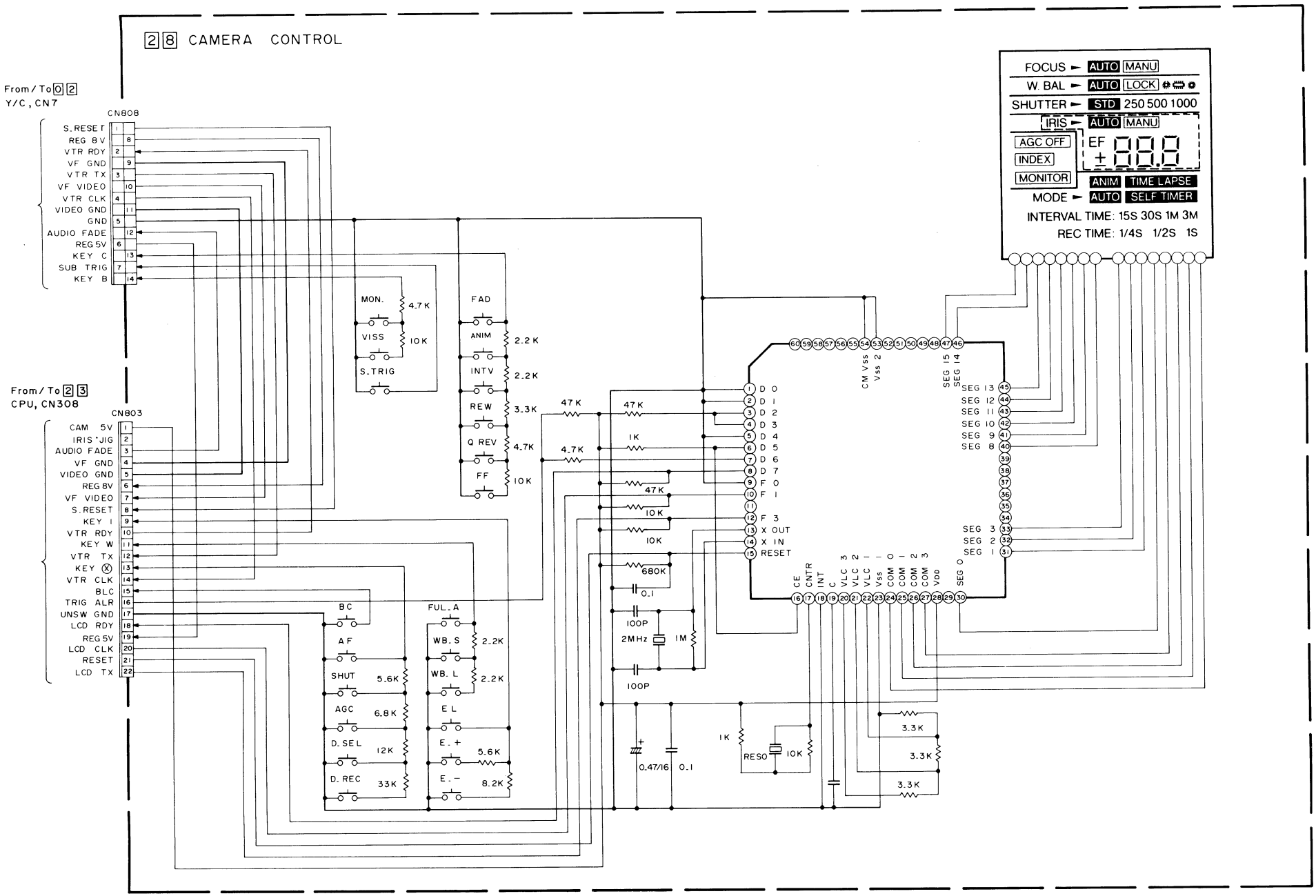
1						
2						
3						
4						
5						
6						

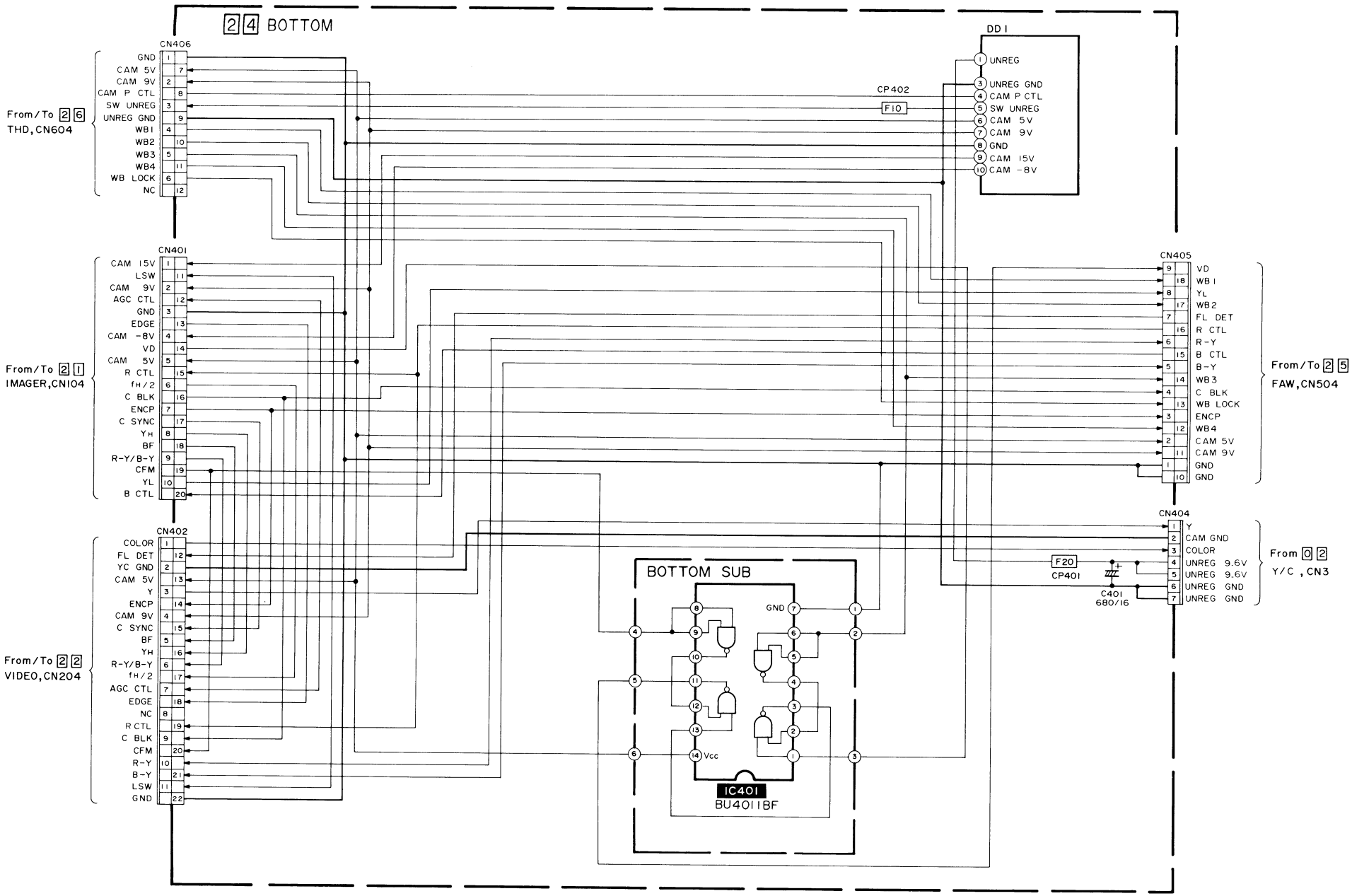
TRANSISTOR		DIODE			
G1 	G3 	H1 	I1 	I3 	H3 - 5 
G2 	G4	H2 	I2 	I4 	H6 

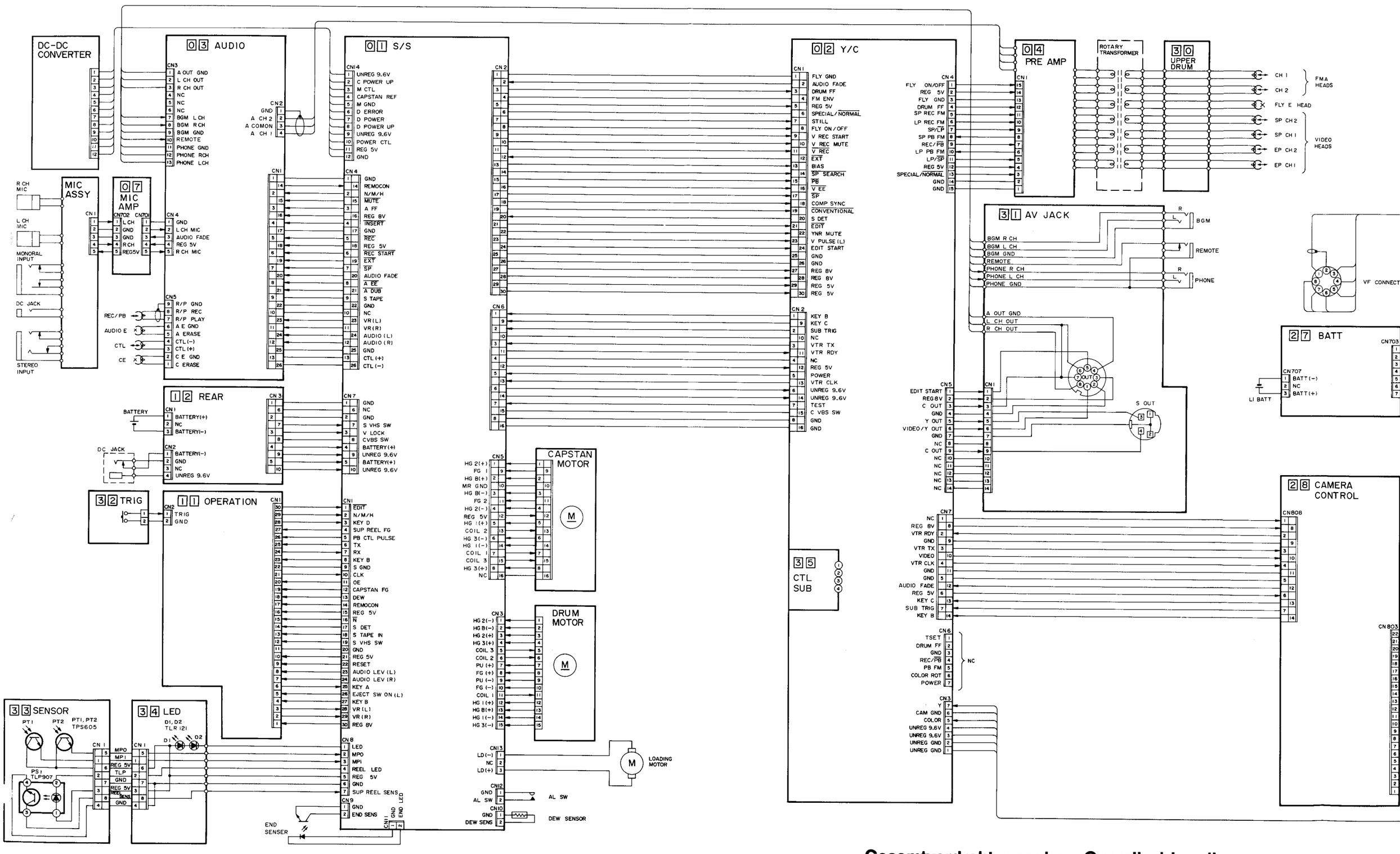
Automatischer Weißabgleich 2 - FAW 2



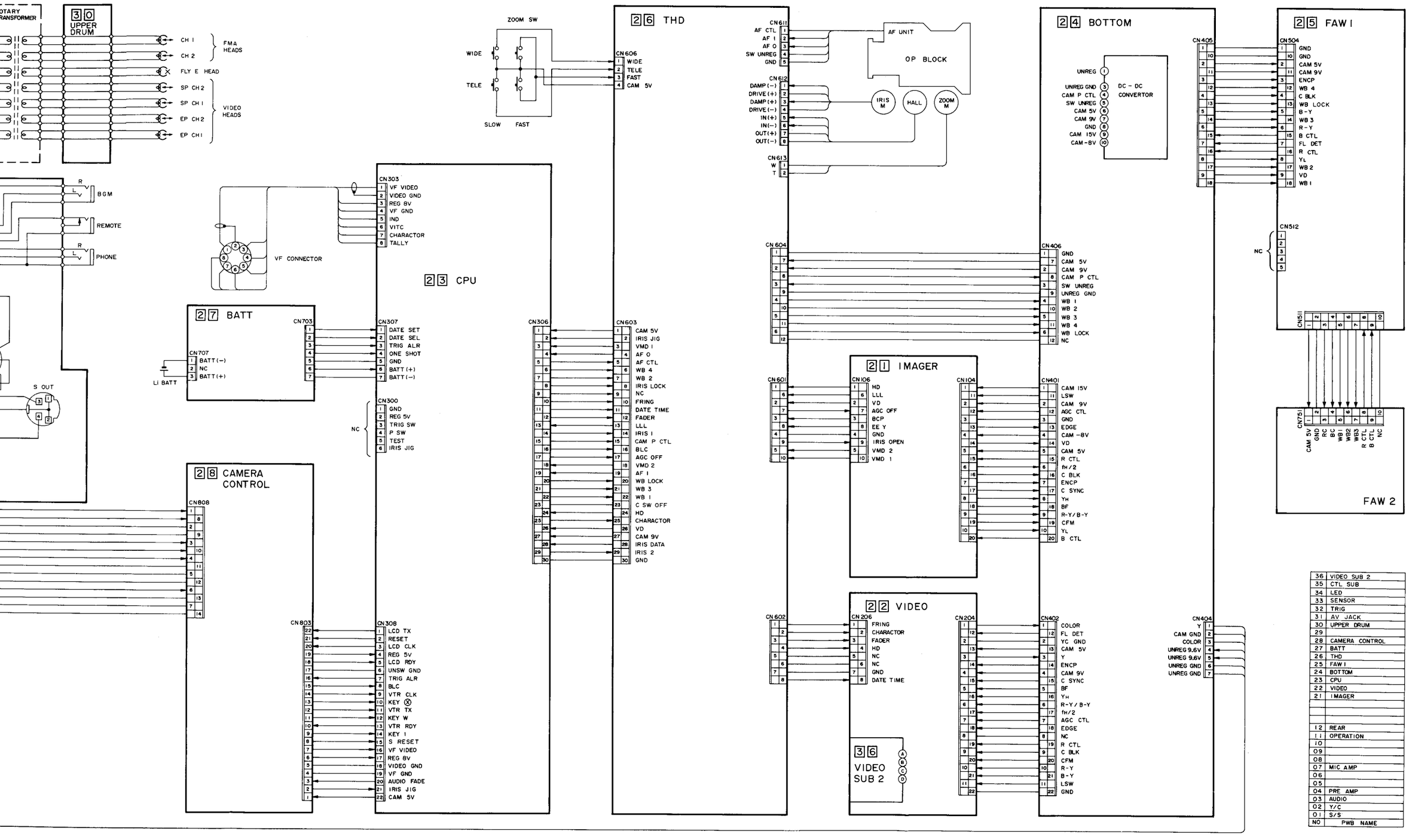

28 CAMERA CONTROL
From / To 02
Y/C, CN7
CN808
S.RESET
REG 8V
VTR RDY
VF GND
VTR TX
VF VIDEO
VTR CLK
VIDEO GND
GND
AUDIO FADE
REG 5V
KEY C
SUB TRIG
KEY B
From / To 23
CPU, CN308
CN803
CAM 5V
IRIS JIG
AUDIO FADE
VF GND
VIDEO GND
REG 8V
VF VIDEO
S.RESET
KEY I
VTR RDY
KEY W
VTR TX
KEY X
VTR CLK
BLC
TRIG ALR
UNSW GND
LCD RDY
REG 5V
LCD CLK
RESET
LCD TX
MON.
VISS
S.TRIG
4.7K
10K
FAD
ANIM
INTV
REW
Q REV
FF
2.2K
2.2K
3.3K
4.7K
10K
BC
AF
SHUT
AGC
D.SEL
D.REC
5.6K
6.8K
12K
33K
FUL.A
WB.S
WB.L
EL
E.+
E.−
2.2K
2.2K
5.6K
8.2K
47K
47K
4.7K
1K
47K
10K
10K
680K
0.1
100P
2MHz
1M
100P
0.47/16
0.1
1K
RESO
10K
3.3K
3.3K
3.3K
FOCUS AUTO MANU
W. BAL AUTO LOCK
SHUTTER STD 250 500 1000
IRIS AUTO MANU
AGC OFF
INDEX
MONITOR
EF ±88.8
ANIM TIME LAPSE
MODE AUTO SELF TIMER
INTERVAL TIME: 15S 30S 1M 3M
REC TIME: 1/4S 1/2S 1S
D0 D1 D2 D3 D4 D5 D6 D7 F0 F1 F3 X OUT X IN RESET
CM Vss Vss 2
SEG 15 SEG 14
SEG 13 SEG 12 SEG 11 SEG 10 SEG 9 SEG 8
SEG 3 SEG 2 SEG 1
CE CNTR INT C VLC 3 VLC 2 VLC 1 Vss COM 0 COM 1 COM 2 COM 3 Vdd SEG 0

Grundplatte - Bottom

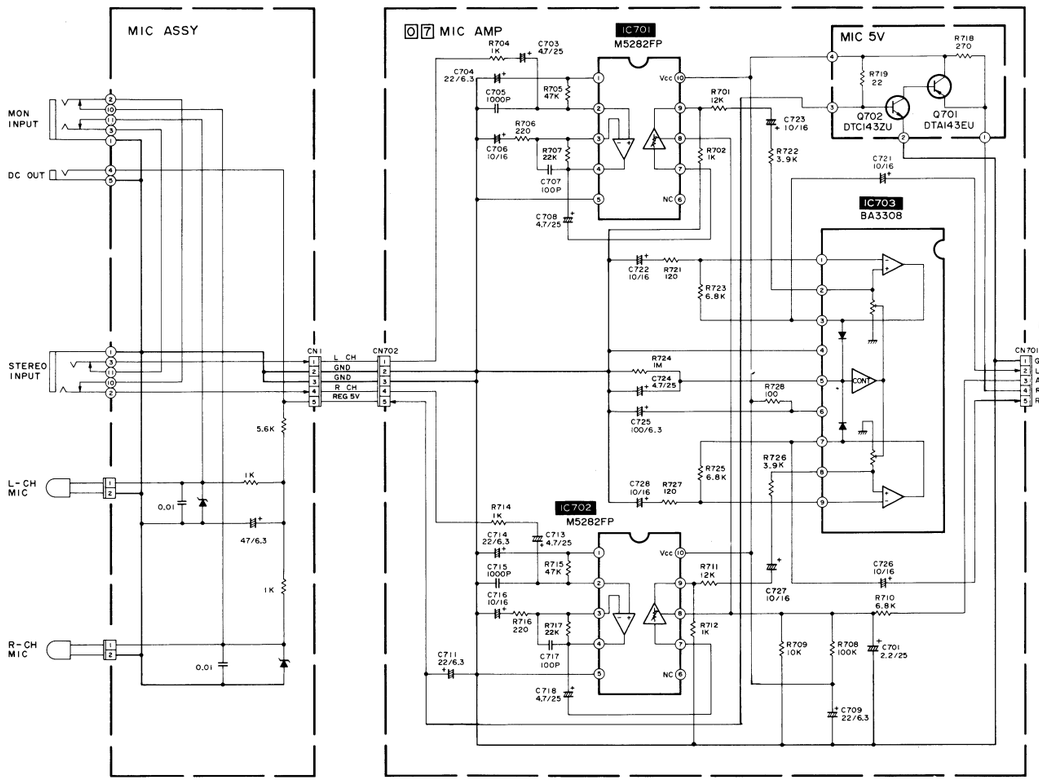


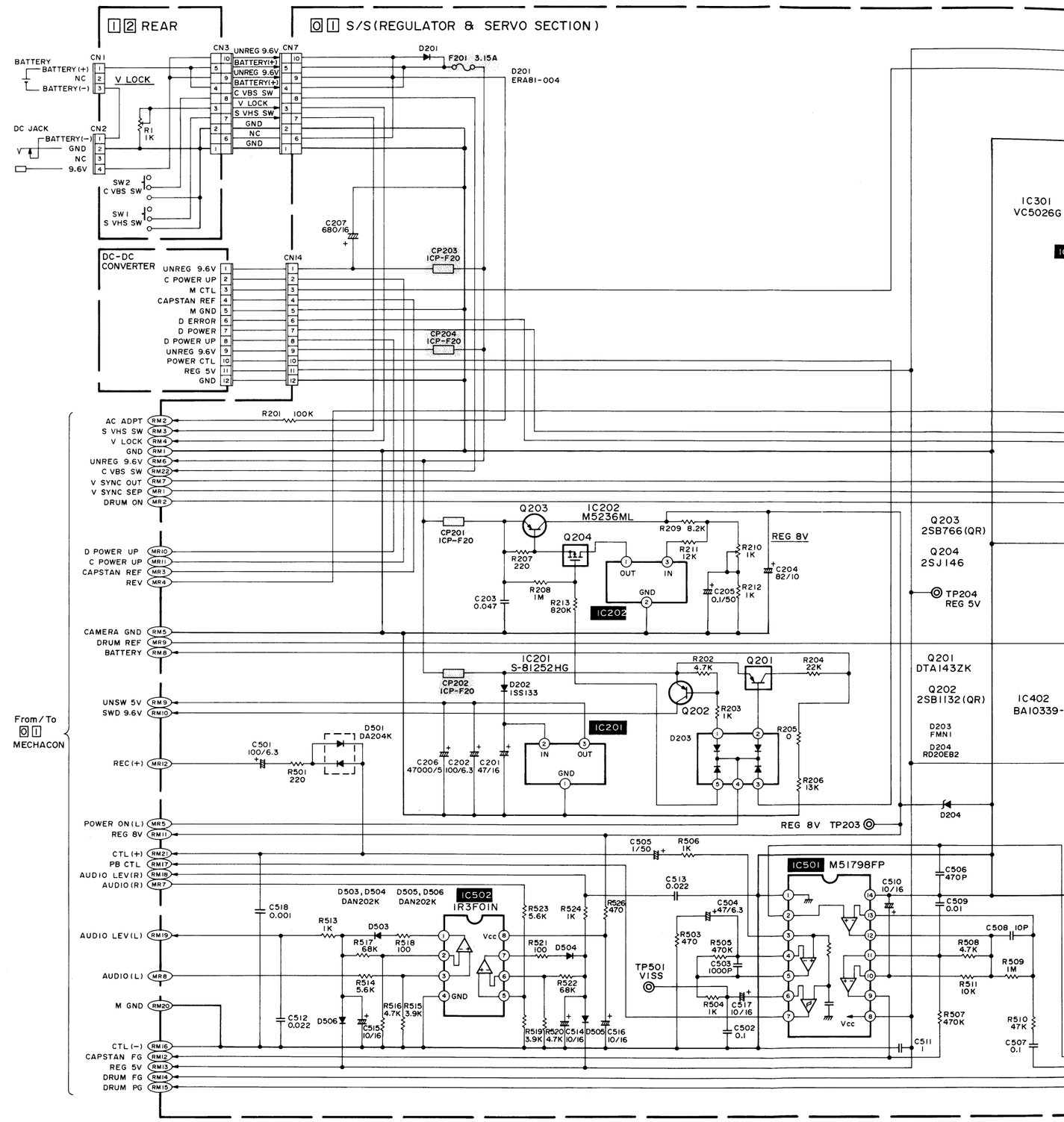


Gesamtverdrahtungsplan - Overall wiring diagram



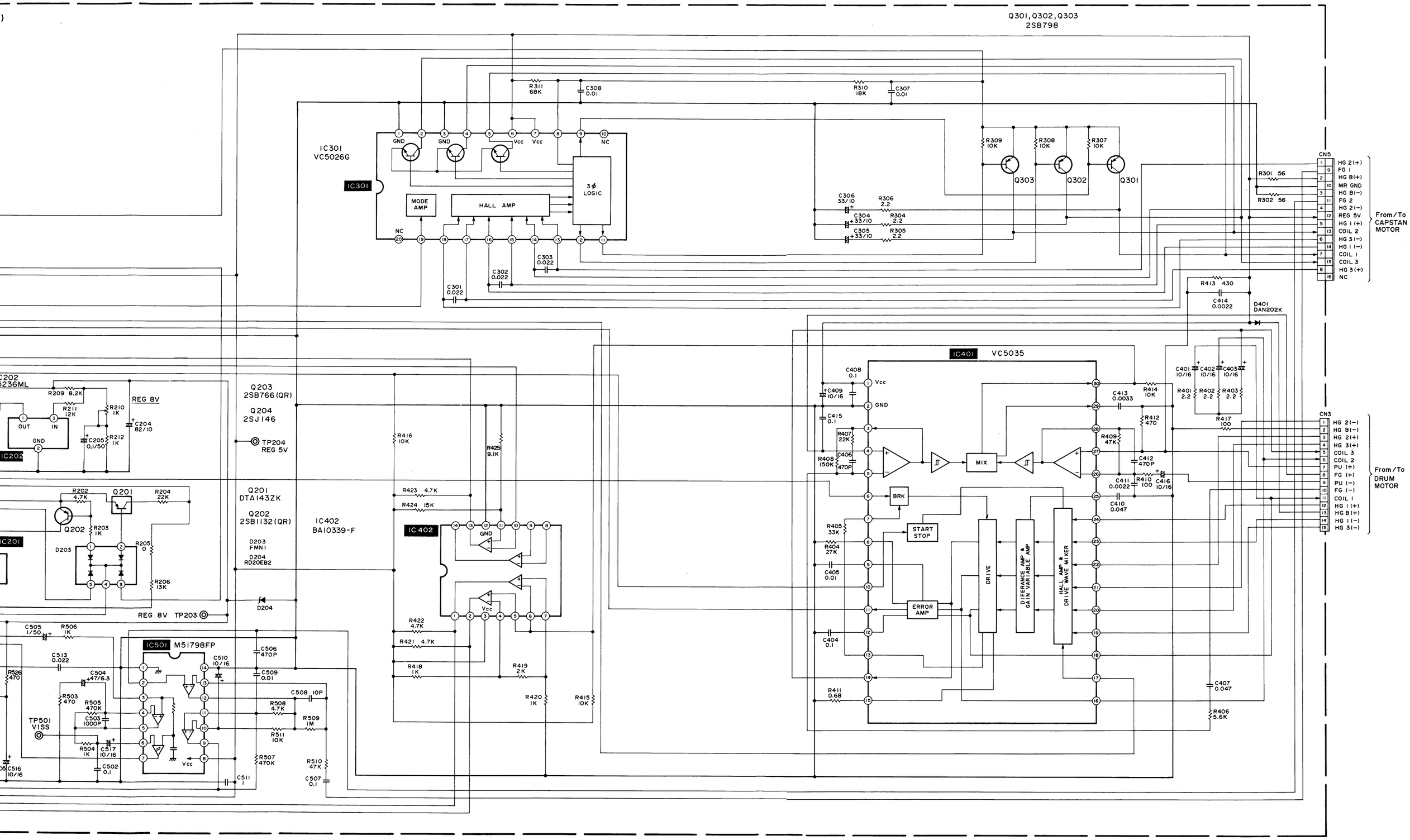
verall wiring diagram





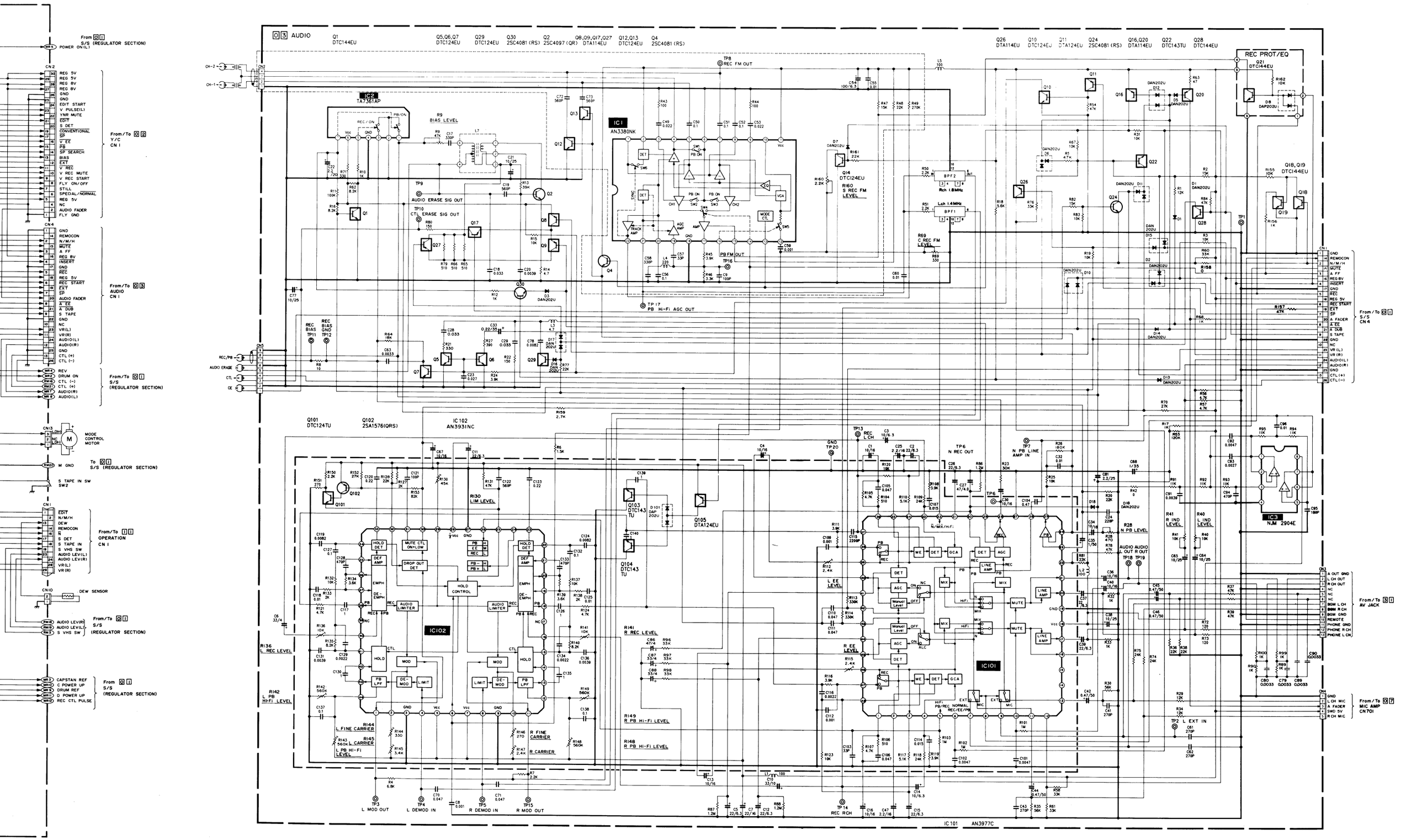
Mikrofon - Microphone

Stro

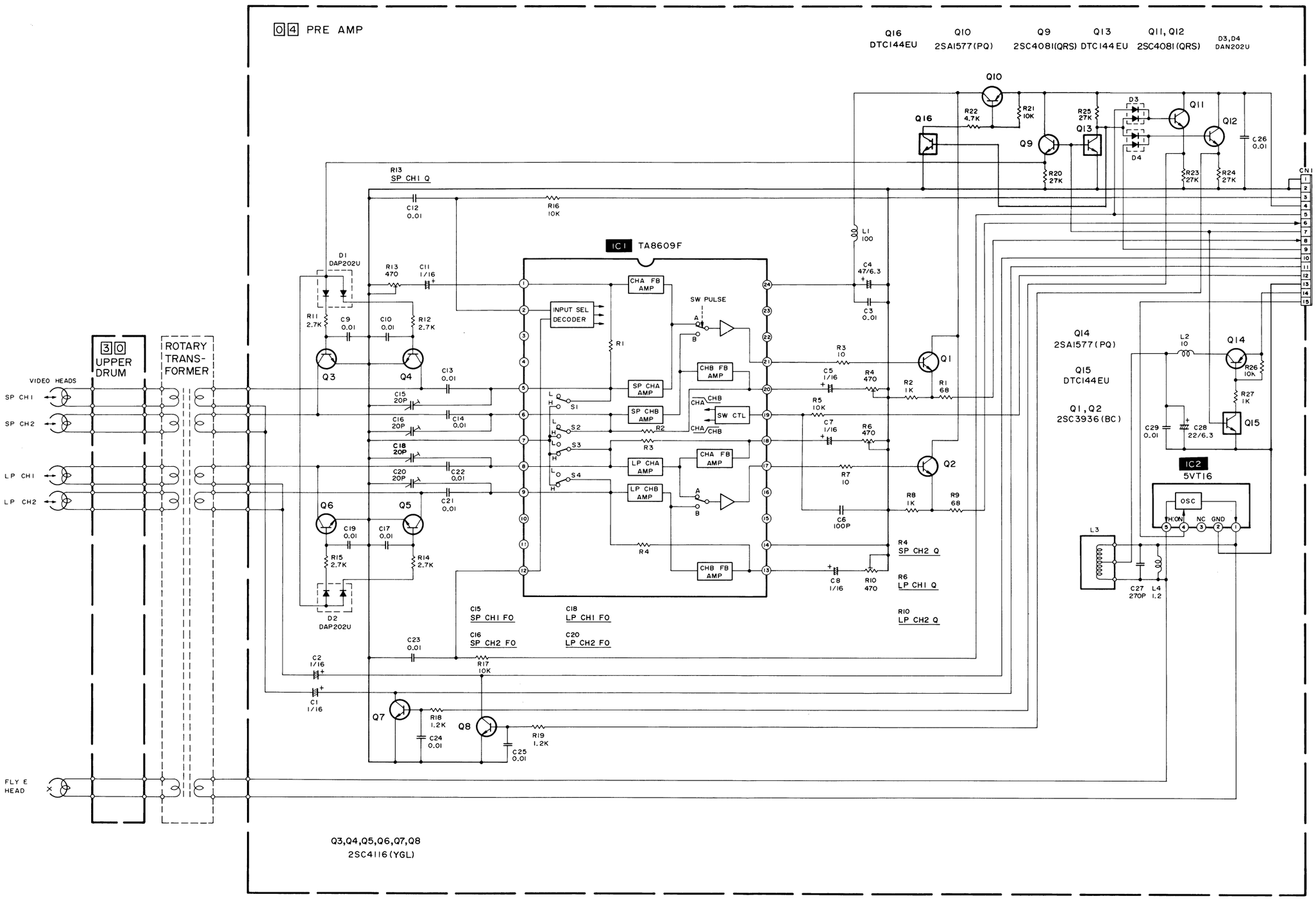


Stromversorgung / Servo - Regulator / Servo

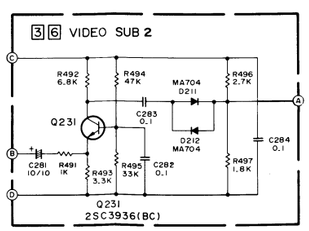
Steuerlogik - Mechacon


03 AUDIO
Q1 DTC144EU
Q5,Q6,Q7 DTC124EU
Q29 DTC124EU
Q30 2SC4081 (RS)
Q2 2SC4097 (QR)
Q8,Q9,Q17,Q27 DTA114EU
Q12,Q13 DTC124EU
Q4 2SC4081 (RS)
Q26 DTA114EU
Q10 DTC124EU
Q11 DTA124EU
Q24 2SC4081 (RS)
Q16,Q20 DTA114EU
Q22 DTC143TU
Q28 DTC144EU
REC PROT/EQ
Q21 DTC144EU
Q18,Q19 DTC144EU
IC2 TA7361AP
IC1 AN3380NK
IC102
IC101
IC3 NJM 2904E
IC 102 AN3931NC
IC 101 AN3977C
Q101 DTC124TU
Q102 2SA1576(QRS)
Q103 DTC143TU
Q104 DTC143TU
Q105 DTA124EU
From 01 S/S (REGULATOR SECTION)
POWER ON(L)
From/To 02 Y/C CN1
From/To 03 AUDIO CN1
From/To 01 S/S (REGULATOR SECTION)
From/To 01 OPERATION CN1
From/To 01 S/S (REGULATOR SECTION)
From 01 S/S (REGULATOR SECTION)
MODE CONTROL MOTOR
To 01 S/S (REGULATOR SECTION)
S TAPE IN SW SW2
DEW SENSOR
From/To 01 S/S (REGULATOR SECTION)
From/To 01 S/S CN4
From/To 01 AV JACK
From/To 07 MIC AMP CN701
REC BIAS TP11
REC BIAS GND TP12
REC FM OUT
AUDIO ERASE SIG OUT
CTL ERASE SIG OUT
PB FM OUT
PB Hi-Fi AGC OUT
L MOD OUT
L DEMOD IN
R DEMOD IN
R MOD OUT
REC LCH
N REC OUT
N PB LINE AMP IN
L EXT IN
AUDIO AUDIO L OUT R OUT
BIAS LEVEL
LIM LEVEL
L REC LEVEL
L PB HI-FI LEVEL
L FINE CARRIER
L CARRIER
R FINE CARRIER
R CARRIER
R REC LEVEL
R PB HI-FI LEVEL
L EE LEVEL
R EE LEVEL
C REC FM LEVEL
S REC FM LEVEL
N PB LEVEL
L IND LEVEL
R IND LEVEL
Lch 1.4MHz
Rch 1.8MHz
REC/PB
AUDIO ERASE
CTL
OE

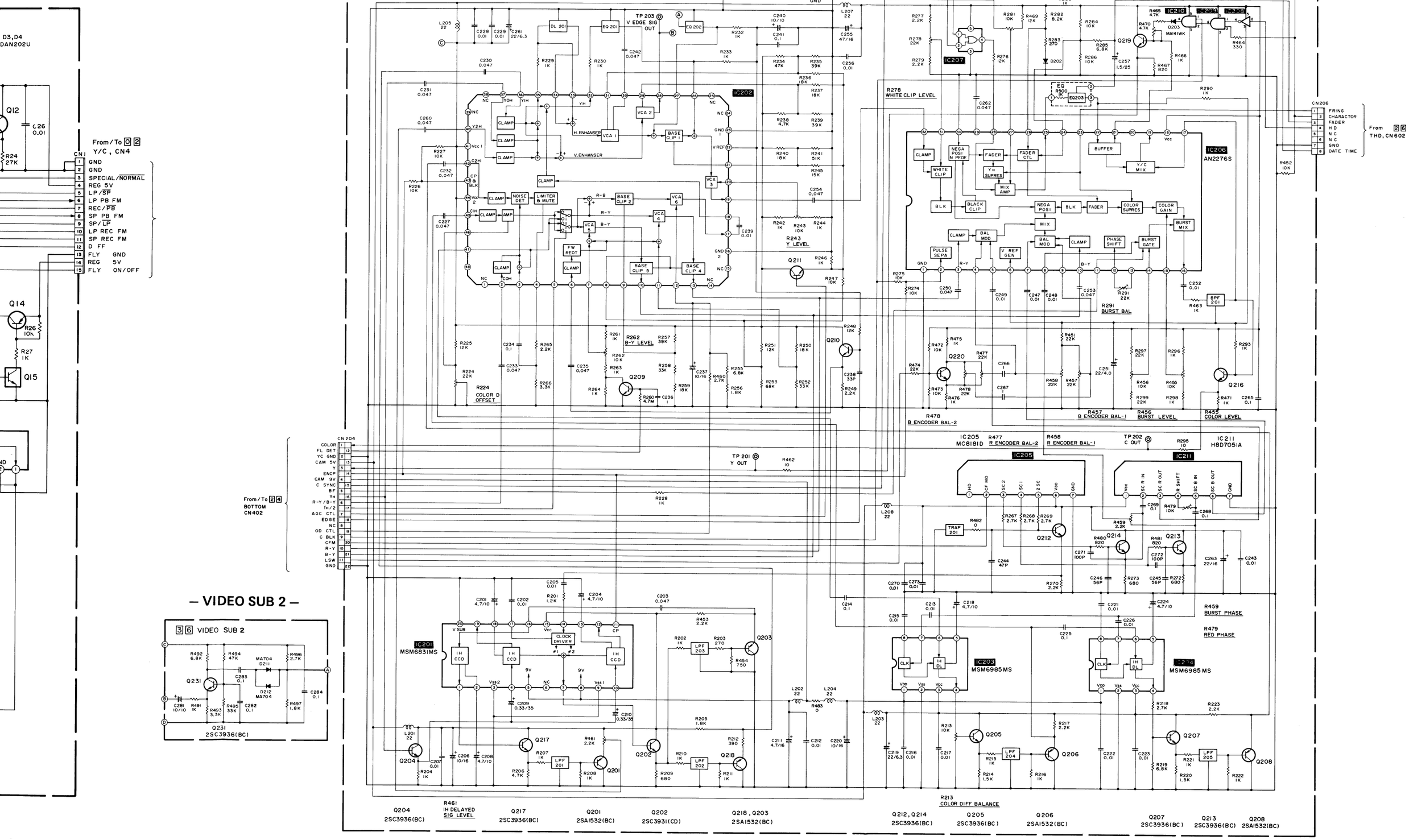
Audio - Audio



– VIDEO SUB 2 –



Vor- und Aufnahmeverstärker - Pre- and record amplifier



Video 1 und 2 (Camera) - Video 1 and 2 (camera)

23 CPU

IC302 M37450M2-152FP

IC304 UPC358G2

Q301 DTA124EU

IC301 M37100M8-492FP

Q302 DTC124EU

IC311 TC74HC04AF

From/To 26 THD, CN603

CN306

CAM 5V 1
IRIS JIG 2
VMD I 3
AF O 4
AF CTL 5
WB 4 6
WB 2 7
IRIS LOCK 8
NC 9
FRING 10
DATE TIME 11
FADER 12
LLL 13
IRIS I 14
CAM P CTL 15
BLC 16
AGC OFF 17
VMD 2 18
AF I 19
WB LOCK 20
WB 3 21
WB I 22
C SW OFF 23
HD 24
CHARACTOR 25
VD 26
CAM 9V 27
IRIS DATA 28
IRIS 2 29
GND 30

CN300

GND 1
REG 5V 2
TRIG SW 3
P SW 4
TEST 5
IRIS JIG 6

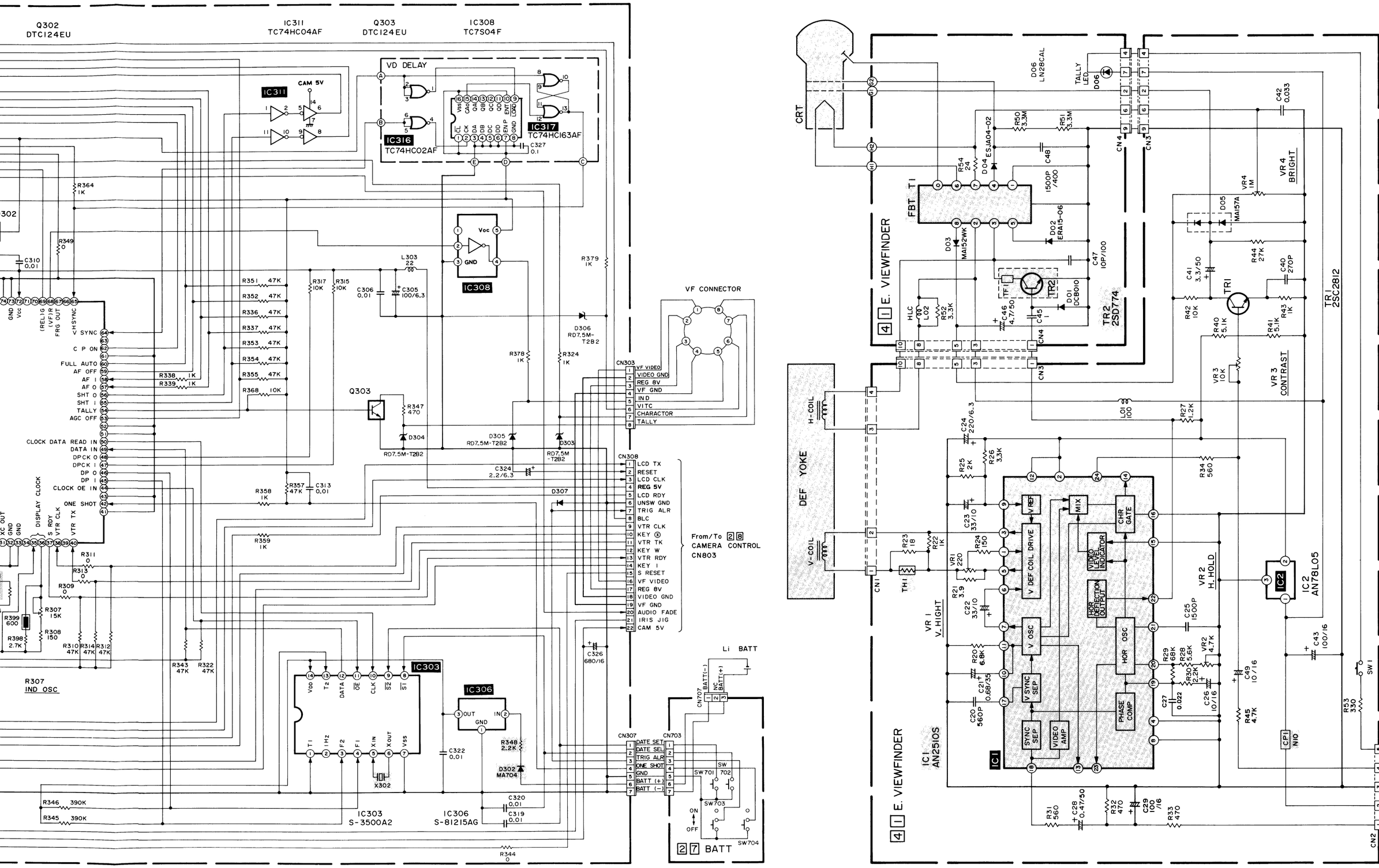
NC

R367 1K
R320 1K
C312 0.01
R323 0
R364 1K
C314 0.01
R301 2.2K
R319 22K
C311 2.2/6.3
C310 0.01
R349 0
R363 1K
R375 0
R376 0
R365 1K
L301 22
C302 0.01
C301 47/16
R384 0
R340 820K
C318 0.1
R331 100K
C325 0.01
R330 1K
R332 10K
R335 10K
R333 10K
R334 10K
TP303
R330 IRIS LOCK
L302 22
C303 100/6.3
C304 0.01
R341 10K
R342 6.8K
R391 47K
R362 220K
R392 0
R393 0
R394 0
R373 0
R356 2.2K
R371 10K
R370 10K
R361 10K
R360 10K
R305 33K
R366 1K
R369 10K
R387 39K
R326 4.7K
C315 0.01
R388 47K
TP302
5V OUT
R326 5V
TP301 GND
R351 47K
R352 47K
R336 47K
R337 47K
R353 47K
R354 47K
R355 47K
R338 1K
R339 1K
R368 10K
R317 10K
R357 47K
C313 0.01
R358 1K
R359 1K
R311 0
R313 0
R309 0
C307 10P
X301
R306 1M
R399 600
R398 2.7K
R307 15K
R308 150
C308 15P
C309 30P
R304 47K
R303 47K
R302 47K
R310 47K
R314 47K
R312 47K
R343 47K
R322 47K
R307 IND OSC
R346 390K
R345 390K

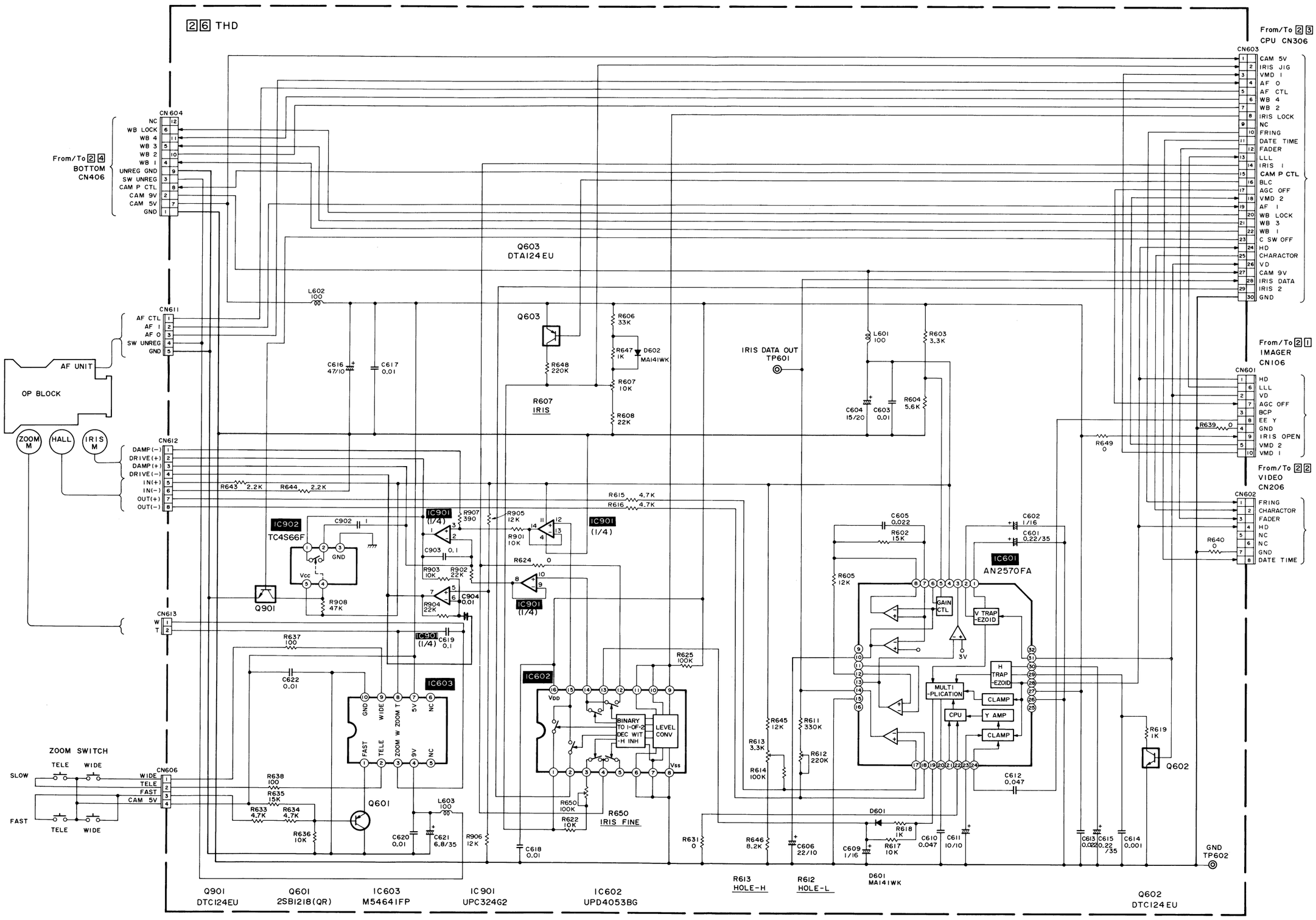
IC315 UPC358 G2
IC305 S-8053ANO
IC307 UPC358G2
IC312
IC313, IC314 TC4S66F
IC 312 TC74HC14AF

CAM 5V

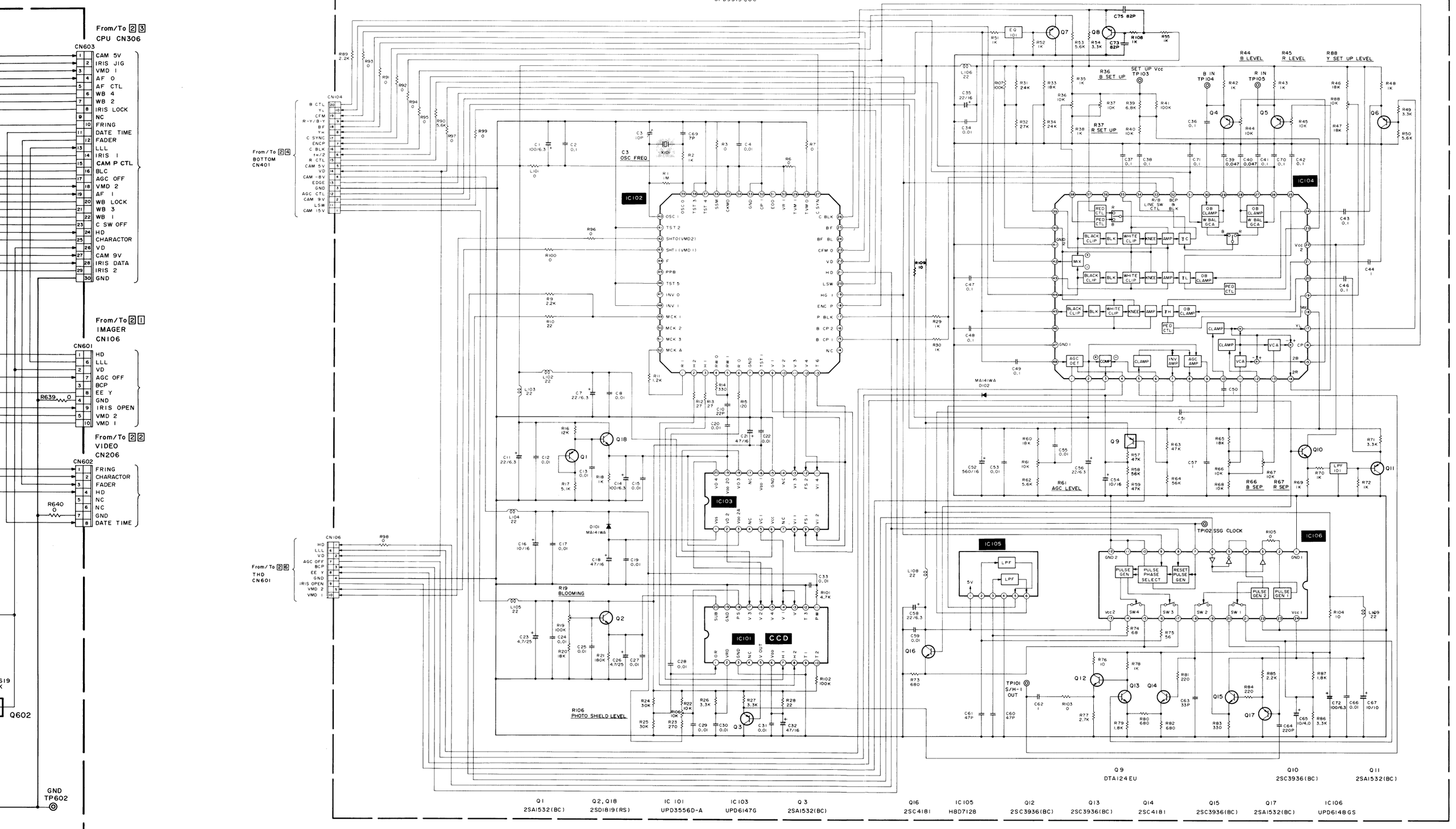
Steuereinheit - CPU



Monitor - Electronic view finder



Objektiv Steuerung - THD



Bildwandler - Imager

25 FAW1

Q501, Q502 2SC3936 (BC) | Q503 2SC4081 (QR) | Q504, Q505 2SC3936 (BC) | Q506 2SC4081 (QR) | Q507 2SC3936 (BC) | IC501 HA11899MP | Q508 2SC4081 (QR) | Q509 2SC3936 (BC) | Q510~Q513 2SC4081 (QR) | IC502 BA10339F

From / To 24 BOTTOM, CN405

CN504: GND, GND, CAM 5V, CAM 9V, ENCP, WB4, C BLK, WB5, B-Y, WB3, R-Y, WB3, B CTL, FL DET, R CTL, YL, WB2, VD, WB1

L502 22, L501 22

C501 0.01, C502 10/16, C503 0.01, C504 22/6.3

R501 1.8K, R502 47K, R503 5.6K, R504 1K, R505 1.8K, R506 5.6K, R507 10K, R508 1.8K, R509 47K, R510 5.6K, R511 1K, R512 1.8K, R513 5.6K, R514 10K, R515 1K, R516 1K, R517 1.8K, R518 5.6K, R519 10K

Q501, Q502, Q503, Q504, Q505, Q506, Q507, Q508

R520 3.3K, R521 1K, D501 MA141A, R522 1K, R523 1K, R524 10K

Q509, Q510, Q511, Q512, Q513

C527 0.047, C528 0.047, C529 0.047

R551 47K, R552 47K, R553 47K

TP502 R-Y, TP501 B-Y

C507 0.047, C509 0.047, C508 0.047

R525 10K, R526 10K, R527 10K

C521 0.01

R571 12K, C522 0.01, R569 5.6K, R570 10K

Q515, Q516

R546 22K, R548 2.2K, Q514, R549 47K, R550 47K, R547 2.2K

R549 B-Y LEVEL, R550 R-Y LEVEL

C510 1/16, C511 1/16, C512 1/16, C513 1/16

R528 10K, R529 10K, R530 10K, R531 10K

IC501: COMP, COMP, UP/DOWN, 6bit UP/DOWN COUNTER, D/A, D/A, 6bit UP/DOWN COUNTER, UP/DOWN, CLAMP, CLAMP, CLAMP, GATE, GATE, GATE, CA AMP, W BL AMP, RESET CONTROL, START/STOP CONTROL

R545 10K, C520 47/4, R544 3.3K, R543 3.3K, C519 0.01, C518 1/50, R542 47K

R574 5.6K, Q517

R532 100K, R533 100K

IC504: Vcc, GND

Q514 2SC4081 (QR)

IC504 BU4011BF

R537 10K, C516 22/6.3, R536 3.3K, C517 470P, R538 3.3K, R539 10K, R540 3.3K

C502 MA141WA

IC502

R554 47K, R555 47K

CN511

D504 MA141WA

R559 100K, R558 22K

IC503

IC503 BA10339F

Q516 2SC3936 (BC)

Q515, Q517 2SK665

Q518 2SC4081 (QR)

Q518

R572 5.6K, C523 22/6.3, R573 100K

CN512: NC

R541 3.3K, R575 1M, Q520

Q520 2SK117

D503 DAN202U

From / To 01 S/S, CN1

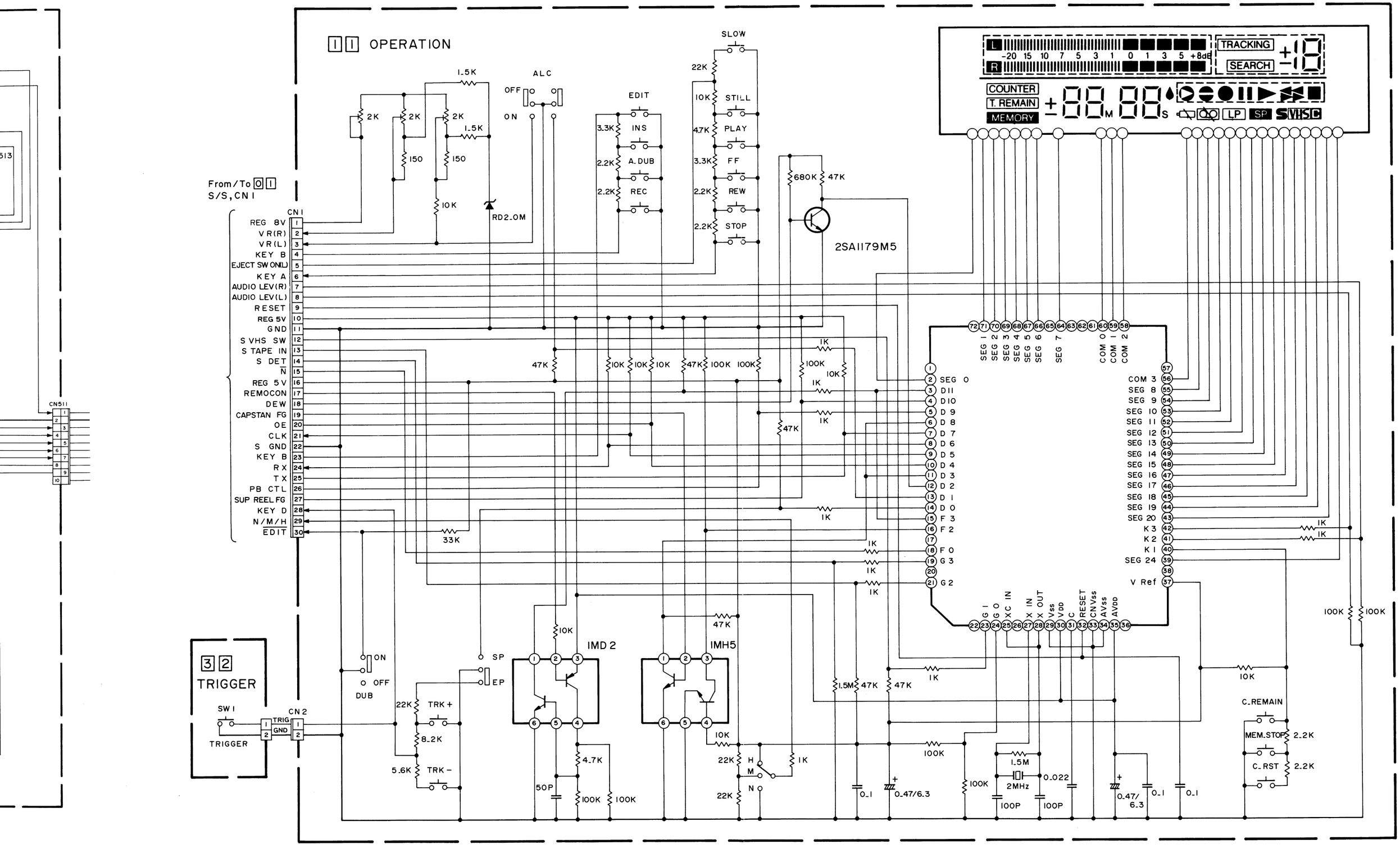
CN1: REG 8V, VR(R), VR(L), KEY B, EJECT SW ON(L), KEY A, AUDIO LEV(R), AUDIO LEV(L), RESET, REG 5V, GND, S VHS SW, S TAPE IN, S DET, N, REG 5V, REMOCON, DEW, CAPSTAN FG, OE, CLK, S GND, KEY B, RX, TX, PB CTL, SUP REEL FG, KEY D, N/M/H, EDIT

32 TRIGGER

SW1 TRIGGER

CN2: TRIG, GND

Automatischer Weißabgleich 1- FAW 1



Bedienteil - Operation